

Appl. No. 09/992,240
Amdt. dated October 6, 2004
Reply to Office Action of April 22, 2004

Remarks

The present amendment responds to the Official Action dated July 8, 2004. The Official Action noted that claims 1-20 are allowed. The Official Action rejected 21-59 under 35 U.S.C. 103(a) as unpatentable over Dumont U.S. Patent No. 5,437,346 ("Dumont") in view of Schneider U.S. Patent No. 5,208,638 ("Schneider"). These grounds of rejection are addressed below following a brief discussion of the present invention to provide context. Claims 34, 39, 46, 47, 52, 55, 56, 58 and 59 have been amended to be more clear and distinct. Claims 1-59 are presently pending.

The Present Invention

A system according to an aspect of the present invention comprises a system for monitoring movement in a post scan area of a self checkout terminal. The system suitably uses a scale in order to sense the weight of items placed in a post scan area. The system is adapted to monitor unauthorized placement of items on the post scan surface while allowing the reshuffling of items in the post scan area. Reshuffling of items is the removal of an item from one region of the post scan area and the replacement of the item in another region, or the same region, of the post scan area. The system detects and records a decrease in the weight detected by the scale. Such a decrease may be caused by the removal of one or more items from the post scan area. Subsequently, the system detects an increase in the weight detected by the scale. Such an increase may be caused by the replacement of one or more items previously removed from the post scan area. The system compares the detected increase in weight to the previously detected

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and recorded decrease in weight. If the weight increase matches the weight decrease, indicating that the same items were replaced that were previously removed, a match signal is generated, indicating that no security breach has been detected. If the weight increase does not match the weight decrease, a security breach may have been attempted, and the system suitably makes an appropriate response, such as instructing a customer to remove an item from the post scan area.

The Art Rejections

All of the art rejections hinge on the application of Dumont applied in combination with Schneider. As addressed in greater detail below, Dumont and Schneider do not support the Official Action's reading of them and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicant does not acquiesce in the analysis of Dumont and Schneider made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

The Official Action rejected claims 21-59 under 35 U.S.C. 103(a) as unpatentable over Dumont in view of Schneider. In light of the following discussion and of the present amendments to claims 39, 46, 47, 52, 55, 56, 58 and 59, this ground of rejection is respectfully traversed.

As amended, claim 21 claims detecting and recording a weight decrease resulting from removal of one or more items in the post-scan area of the self service checkout terminal, detecting a weight resulting from placement of one or more items in the post-scan area of the self-service check out terminal and generating a match signal if the weight increase matches the weight decrease. These features are not taught by Dumont. Dumont teaches a purchase checkout

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system in which items that are scanned are placed into a bag disposed beneath a verification platform. The checkout system employs a bag load checking means, which may be a scale, preferably disposed beneath a platform supporting the bag. As items are scanned, they are placed into the bag, typically using a verification platform that allows the controlled entry of only one item at a time into the bag. The scale detects weight increases as items are deposited into the bag and as a weight increase is detected, the detected weight is compared against the weight of the item that was scanned. Once a bag is full, it is typically automatically sealed in such a way that any opening of the bag will be noticeable. Dumont does not contemplate removal of an item and does not teach means to detect and record a weight decrease and compare a subsequent weight increase against the weight decrease. On the contrary, Dumont teaches several measures to guard against removal of an item.

Claim 21, on the other hand, allows for removal and replacement of items while still monitoring the weight decreases and increases indicated by the removal and replacement, in order to prevent replacement of a different item than was removed. The system claimed by claim 21 provides a customer with the ability to move items from one location on the post scan area to another, for example, from a shelf into a bag. This option provides customers with considerably greater flexibility than does Dumont. For example, the system of claim 21 allows a customer to scan a number of items, arrange them on a shelf in the post scan area and move a selected number of items from the shelf into a bag. The decreases and increases in detected weight resulting from the movement from the shelf into the bag will be detected and compared in order

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to detect if the customer places an item into a bag that was not previously removed from the shelf. Claim 21 therefore defines over Dumont.

Adding Schneider to Dumont does not cure Dumont's deficiencies as a reference with respect to claim 21. Schneider teaches a checkout system that provides security through video surveillance and by comparing the actual weight detected by a scale against an expected weight computed by tracking the expected weights of products that have been entered. Schneider does not teach tracking and recording weight decreases and comparing them against weight increases.

Tracking and recording weight decreases and increases as presently claimed achieves an acceptable level of security while allowing more flexibility with respect to bagging. For example, tracking weight decreases allows for detection and recording of a series of weight decreases caused by the removal of a succession of items, with each individual decrease being required to be matched by a corresponding weight increase. Such a procedure renders more difficult the removal of a group of products and their illicit replacement by a group having a similar overall weight but different individual weights. Claim 21 therefore defines over the cited art and should be allowed.

Claim 35 claims detecting and recording any weight decrease resulting from removal of one or more items from the post-scan area of the self-service checkout terminal, detecting any weight increase resulting from placement of one or more items in the post-scan area of the self-service checkout terminal and generating a match signal if a weight increase matches a weight decrease. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious detection and recording of a weight decrease and

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comparison of a weight increase with the weight decrease. Claim 35 therefore defines over the cited art and should be allowed.

Claim 39, as amended, claims detecting a weight increase resulting from placement of one or more items in the post-scan area of the self-service checkout terminal. Claim 39 further claims determining if the weight increase corresponds to an expected weight of a previously entered item or to a previously detected and recorded weight decrease. Claim 39 additionally claims, if the weight increase does not correspond to an expected weight of a previously entered item or to a previously detected and recorded weight increase, communicating an instructional message instructing a user to remove the detected item or items from the post-scan area and to enter the item or items for purchase. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious comparison of a weight increase with a previously recorded weight decrease. Claim 39, as amended, therefore defines over the cited art and should be allowed.

Claim 45 claims detecting and recording any decreased weight resulting from removal of one or more items from a post-scan area of a self-service checkout terminal, detecting any increased weight resulting from placement of one or more items in the post-scan area of the self-service checkout terminal and generating a match signal if a weight increase matches a weight decrease. As noted above with respect to claim 21, neither neither Dumont, Schneider nor a combination thereof teaches or makes obvious detection and recording of a weight decrease and comparison of a weight increase with the weight decrease. Claim 45 therefore defines over the cited art and should be allowed.

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Claim 46, as amended, claims detecting removal of a first item from a post-scan area of a self-service checkout terminal by detecting a weight decrease caused by removal of a first item, and also recording the weight decrease caused by removal of the first item. Claim 46 further claims detecting placement of a second item in the post-scan area of the self-service checkout terminal by detecting a weight increased caused by placement of the second item. Claim 46 further claims generating a match signal if a match between the weight increase and the recorded weight decrease indicates that the second item is the first item. As noted above with respect to claim 21, neither neither Dumont, Schneider nor a combination thereof teaches or makes obvious detection and recording of a weight decrease and comparison of a weight increase with the weight decrease. Claim 46, as amended, therefore defines over the cited art and should be allowed.

Claim 47, as amended, claims providing a self-service checkout terminal having a scanner that enters items for purchase and a scale that weighs items in a post-scan surface. Claim 47 further claims providing a security system that differentiates between entered and non-entered items placed on the post-scan surface, wherein said security system employs the scale to detect the removal of an item from the post scan surface by detecting a weight decrease caused by the removal of the item from the post-scan surface. The security system records the weight decrease. The security system detects the replacement of an item on the post-scan surface by recognizing a match between a weight increase and the recorded weight decrease. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious

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comparison of a weight increase with a previously recorded weight decrease. Claim 47, as amended, therefore defines over the cited art and should be allowed.

Claim 52, as amended, claims providing a security system that employs a scale to detect the removal of an item from the post scan surface by detecting a weight decrease caused by the removal of the item from the post-scan surface. The security system records the weight decrease. The security system detects the replacement of an item on the post-scan surface by detecting a weight increase caused by the placement of the item on the post-scan surface. The security system generates a match signal when a match between the weight increase and the recorded weight decrease indicates that an item removed from the post-scan surface has been placed back on the post-scan surface. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious comparison of a weight increase with a previously recorded weight decrease. Claim 52, as amended, therefore defines over the cited art and should be allowed.

Claim 55, as amended, claims providing a security system that employs the scale to detect the removal of an item from the post scan surface by detecting a weight decrease caused by the removal of the item from the post-scan surface. The security system records the weight decrease. The security system detects and the replacement of an item on the post-scan surface by detecting a weight increase caused by the placement of the item on the post-scan surface. The security system generates an improper-use signal if a mismatch between the weight increase and the recorded weight decrease indicates that an item removed from the post-scan surface has been replaced by an item having a different weight. As noted above with respect to claim 21, neither

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Dumont, Schneider nor a combination thereof teaches or makes obvious comparison of a weight increase with a previously recorded weight decrease. Claim 55, as amended, therefore defines over the cited art and should be allowed.

Claim 56, as amended, claims providing a security system that employs the scale to detect the removal of an item from the post scan surface by detecting a weight decrease caused by the removal of the item from the post-scan surface. The security system records the weight decrease. The security system detects and the replacement of an item on the post-scan surface by detecting a weight increase caused by the placement of the item on the post-scan surface. The security system generates an improper-use signal if a mismatch between the weight increase and the recorded weight decrease indicates that an item removed from the post-scan surface has been replaced by an item having a greater weight. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious comparison of a weight increase with a previously recorded weight decrease. Claim 55, as amended, therefore defines over the cited art and should be allowed.

Claim 58, as amended, claims providing a security system that employs the scale to detect the removal of an item from the post scan surface by detecting a weight decrease caused by the removal of the item from the post-scan surface. The security system records the weight decrease. The security system detects the replacement of an item on the post-scan surface by detecting a weight increase caused by the placement of the item on the post-scan surface. The security system generates an improper-use signal if a mismatch between the weight increase and the recorded weight decrease indicates that an item removed from the post-scan surface has been

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replaced by an item having a lesser weight. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious comparison of a weight increase with a previously recorded weight decrease. Claim 58, as amended, therefore defines over the cited art and should be allowed.

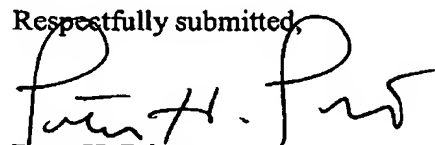
Claim 59, as amended, claims providing a security system that employs the scale to detect the placement of one or more unentered items on a post-scan surface of a self-checkout terminal by detecting a weight increase resulting from placement of one or more items in the post-scan surface, determining if the weight increase corresponds to an expected weight of a previously entered item or to a previously detected and recorded weight decrease and identifying an item or items as unentered if the weight increase caused by the placement of the one or more items does not correspond to an expected weight of a previously entered item or previously entered items or to a previously detected and recorded weight decrease or previously detected and recorded weight decreases. As noted above with respect to claim 21, neither Dumont, Schneider nor a combination thereof teaches or makes obvious comparison of a weight increase with a previously recorded weight decrease. Claim 59, as amended, therefore defines over the cited art and should be allowed.

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Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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